



Dr. Walker and student Don Jones try bio-feedback technique with help of a computer

EVERYTHING IS POSSIBLE

"The mind seems to be able to do anything, if it can be made aware of what it is supposed to do."

That is a startling statement. Its implications are overwhelming.

It was said matter-of-factly, during an interview, by Dr. David Walker of UVic's Department of Psychology.

It defines, in a nutshell, what bio-feedback is all about — in eight short years it has become "the most powerful experimental design in the biological sciences" and something Dr. Walker and some of his colleagues are engrossed in within the laboratories of the Cornett Building.

Although he is preoccupied with brain physiology and the social and cultural implications of bio-feedback and the "alternatives it will provide for the average person," Dr. Walker has begun to experiment with ten students on how bio-feedback can help diabetics.

Diabetics are prone to suffer poor circulation to their extremities, which can

result in infections and gangrene, and what the experimenters are doing is learning how to increase blood flow to their feet by a simple act of the mind or will.

Dr. Walker is doing this out of "personal interest" because one of his colleagues recently lost a toe from diabetes, and it so happens that one of the students is a diabetic.

Five of the students are using electronic equipment which connects their bodies to a computer. This enables them to monitor the moment-to-moment state of their physiology, and by becoming aware of this they are able to will desired changes, such as increasing blood flow to the feet. The other five are attempting to alter blood flow by concentration techniques without the aid of computer feedback.

Dr. Walker also has on-going research, with the help of graduate student Lana Russell on increasing the frequency of the alpha wave, the strongest of the brain's waves. This is aimed at helping paraplegics, who, if taught how to increase the rate of alpha waves, will be able to acti-

vate equipment just by thinking it. For example, Dr. Walker said they could activate a typewriter with a brain wave decoder at speeds up to 60 words per minute.

Meanwhile, some of Dr. Walker's colleagues are working on aborting migraine attacks by willing temperature increases in the hands.

All this works, he said. But it is a mysterious process, just like raising one's arm is. "It doesn't surprise me at all that it works. Everything that everybody has tried to condition with this bio-feedback technique has been conditionable. Everything."

Everything? "Everything."

Yogis, for centuries, have been consciously controlling what was believed to be involuntary functions, such as breathing, heart beat and body temperature. Dr. Walker says a person can be weaned from bio-feedback apparatus and like the yogis begin to control the output of major organs, including the brain itself, by simple acts of the mind.

"Everything is possible with bio-feedback — within the limits of variation that we see. I wouldn't go and say people can fly because I have yet to see anyone fly. But if I saw someone flopping by my window I'd try it myself."

The medical possibilities of bio-feedback are unlimited. "If I got cancer I would definitely work on the problem from the standpoint of bio-feedback."

What particularly excites Dr. Walker is the cultural repercussions of bio-feedback.

"In a world where we seem to be running out of energy to support the external environment's titillation of our consciousness and where we can't take the time to clear up the byproducts from all this use of the external world, we might as well turn our consciousness inwards."

For the brain "to make reoccur whatever is in its own interest", it needs the opportunity to experience variation, to flex itself. And this society, said Dr. Walker, militates against variation with its emphasis on efficiency and the regimentation required for that.

"It is not efficient if you have a lot of variation. It is only efficient if everybody gets up at 8 a.m., goes to work, and works at the same job every day."

The task for a civilized culture is "to

explore variation, not act against it. That, I think, is what freedom is all about. . . In the interest of our own humanity we can't allow these notions of efficiency and regimentation to go much further."

He said that the culmination of variability is "the way we will do all the things we can't even dream of now."

With bio-feedback this can become a reality. "People are always interested in their health. Most of the people I meet — from every walk of life — are interested in the basic question of what it means to be a human being. And all of them know it means more than what they are getting out of this culture."

The hallmarks of this society are boredom and distraction, all rooting from a superficial analysis of the external world. "The external world is pretty complicated, and yet we have developed the word for the fact is doesn't capture our consciousness, and that word is boredom. I don't know if that word exists in languages outside the west, but it is conceivable that there are people who walk around this world who wouldn't know what you meant by the word boredom, because to them the world is constantly changing."

Dr. Walker says he is not bored.

He has come to "the best problem there is". The mind and its potential. "It is more general than all the reality it creates."

SENATE ELECTIONS

The final three elections for a new UVic Senate have been completed. Ten persons out of a field of 18 were elected to faculty-at-large seats, 10 out of 21 for student seats, and four out of six for seats open to members of convocation who are not faculty members.

Following are the results of the faculty election, which was held on March 27: J.L. Climenhaga (Physics), 113 votes, two-year term; J.M. Dewey (Physics), 141 votes, three years; C.F. Goulson (Education), 113, two years; D.F. Henn (Hispanic), 96, one year; D.L. Jeffrey (English), 121, three years; Norma Mickelson (Education), 98, one year; F.P. Robinson (Chemistry), 110, one year; N.A. Swainson (Political Science), 114, three years; and T.R. Warburton (Sociology), 114, two years. (The tie between Swainson and Warburton was resolved by lot.)

Following is the outcome of the student election, which was held on March 25: Wallace Bergen (Graduate Studies), 263 votes; Kerry Carney (Grad.), 212; Laurie Clayton (Arts & Science, 1), 213; Paula DeBeck (A & S, 3), 232; R.C. DiBella (A & S, 3), 203; Anne Forester (Grad.), 239; Rosemary Gray (A & S, 2), 223; Elspeth Heeren (Fine Arts, 2), acclamation; Stephen Koerner (A & S, 3), 184;

and Thomas Probst (Education, 3), 226. All student terms are one year.

Elected in the Convocation vote, which was held on April 1, were David Dunsmuir, an instructor in linguistics at UVic and Camosun College, 597 votes; Jeffrey Green, a local lawyer and UVic graduate, 438; June Thomson, Head of McPherson Library's Cataloguing Division, 580; and Dr. Kenneth Wright, Director of the Dominion Astrophysical Observatory, 703. Both Wright and Dunsmuir are present members of Senate. Convocation terms run three years.

A fourth election took place in February for 10 seats open to representatives from each of the five faculties.

When the new Senate and Board of Governors become effective under the new Universities Act will be decided by provincial order-in-council, which is expected sometime this month.

Four government appointments to the Senate have yet to be announced, but last week eight government appointments to the Board of Governors for three years were announced, effective April 1.

They are S.J. Cunliffe, current board chairman; Alexander Hall, previous member; Larry Ryan, current member; and new members Heather Nicol, Barry Riseborough, M.D. Phillips, A. McCallum, and J.E. Whitlam of Ladysmith.

Appointments terminated, effective April 1, are G.F. Auchinlech, Ronald Lou-Poy, Trudy Friesen and Harvey Richardson.

Student, faculty and staff elections to the new board were held earlier this year.

APPOINTMENTS

Three appointments and one title change were announced by President Petch during the last week of March following the regular monthly meeting of the Board of Governors.

Ted Sawchuk, formerly Director of General University Services, had his title changed, effective April 1, to Director of Student and Ancillary Services, and Mike Elcock who has been Director, pro tem, of Athletics received a formal appointment as Manager, Athletics and Recreational Services.

Effective July 1, 1975, Dr. Orville Elliot becomes Chairman, Department of Anthropology, replacing Dr. D.H. Mitchell.

The only off-campus appointment is Suzanne Louie as Supervisor of Food Services effective April 1. Mrs. Louie was formerly Chief Dietitian at Glendale Hospital in Victoria.





It is beyond the scope of this publication to explain what Dr. Gordon Bushnell, a crystallographer in the Chemistry Department, is doing in basement laboratory in the Elliott Building. Below, he shows graduate student Masood Khan where a crystal is placed on a X-ray diffractometer before a beam splinters it into thousands of beams for analysis and storage into a computer. From this information Dr. Bushnell can calculate the angles and distances between atoms and construct an accurate scale model (from foam rubber balls) of the crystal's molecular structure. Such research leads to the invention of new compounds, but this is not his present concern. "We're advancing pure science in quiet ways."



CONDUCTOR ON SUNDAYS

UVic's Dr. Bryan Gooch is back again and living a double life.

During weekdays he is Assistant Dean of the Faculty of Arts and Science and a member of the Department of English.

On Sundays he rises early to catch a B.C. ferry to be conductor of the New Westminster Symphony Orchestra. In the evening, after rehearsals or a concert, he is on his way back to Victoria.

This is a little more hectic than the days between 1968 and 1971 when he travelled each Sunday to Nanaimo as conductor of its symphony orchestra.

Dr. Gooch is also a well-known pianist who has performed locally and on CBC Radio on numerous occasions since coming to UVic in 1964 as a scholar whose specialty is the relationship of poetry and music in England between 1660 and 1760.



He took over the New Westminster orchestra on January 2 in mid-season after "a delegation came to my doorstep on Christmas Eve asking for my services". He succeeded Karl Kobylansky.

"I decided to accept because I think community effort in the arts is a vital activity."

Besides that, he said, it's enjoyable to do. "Though my orchestra is no Boston Symphony, it is the kind of orchestra whose members come out for the right reason: to make and enjoy music."

Dr. Gooch is rebuilding the orchestra and hopes to have its present size of 55 up to 65 by the end of April.

It's made up of professional people, students, pensioners and people from all walks of life and from all over the Lower Mainland.

Dr. Gooch had his first concert on March 2, which was a challenge to his orchestra. The performance included Schubert's Symphony in B Minor. Mistakes were made, he said, but the important thing is that many seemed to go away satisfied, and the orchestra is determined to do better next time.

His next concert will be on April 29.

UNIVERSITY HANDBOOKS

A directory providing comprehensive information on post-secondary institutions in Canada, and a handbook aimed at

graduates of Commonwealth universities who wish to undertake postgraduate study are now available.

Universities and Colleges of Canada 1975, a joint publication of the Association of Universities and Colleges of Canada (AUCC) and Statistics Canada, contains 66 university chapters. Each chapter includes names of senior administrators, undergraduate and graduate admission requirements, programmes and degrees offered, student awards and financial assistance, size, location and history of the institution, and information on student affairs and extension programmes.

Each university is mapped, and there are listings of research institutes and agencies related to secondary education.

The 600-page directory costs \$7.00 prepaid through AUCC at 151 Slater Street, Ottawa (K1P 5N1).

Scholarships Guide for Commonwealth Postgraduate Students, produced by the Association of Commonwealth Universities (ACU), contains in its 312 pages more than 1,100 entries describing scholarships, grants and assistantships that are open to graduates of Commonwealth universities who wish to undertake postgraduate or postdoctoral study or research at a university in another Commonwealth country.

It can be ordered through the ACU at 36 Gordon Square, London, England (WC1H 0PF). Cost is \$6.50 a copy by surface post.

SPRING CRAFT FAIRE

Some 27 craftsmen from all over Vancouver Island and from the Mainland are offering their wares today and Saturday at the fourth annual "University Spring Craft Faire" being held in the Student Union Building.

Today the "Faire" is between 10:00 a.m. and 8:00 p.m. and on Saturday between 10:00 a.m. and 6:30 p.m.

Crafts include pottery, stained glass, leather work, candles and children's toys.

THESIS EXAMS

Following are forthcoming oral examinations announced by the Faculty of Graduate Studies.

Brian Herten, M.Sc. candidate in Chemistry, will defend a thesis entitled "Studies Relating to the Synthesis of an Indole Alkaloid Bioprecursor" at 2 p.m. today in Elliott 164.

Eung-Jin Baek, M.A. candidate in Linguistics, will be examined on "A Phonological Study of Sino-Korean: A Comparative Study of the Initial Consonants" at 10 a.m. April 8 in Clearihue 306.

Robert Partridge, M.A. candidate in Education, will be examined on "An

Evaluation of the Neurological Impress Remedial Reading Programme" April 8 at 4:15 p.m. in MacLaurin 225.

Lawrence Chamberlain, M.A. Candidate in Education, will defend his thesis "The Effects of Classroom Noise on the Acquisition Rate of a Sight Vocabulary by Kindergarten Children" at 8:30 a.m. April 9 in MacLaurin 225.

FACULTY NEWS

ENGLISH

Dr. Constance Rooke will deliver a paper entitled "Beauty in Distress: *Daniel Deronda* and *The House of Mirth*" at a Women's Studies Conference to be held at the University of Calgary, May 1 to 3.

Dr. Samuel Macey has recently published in *Work Study and Management Services* a paper entitled "Work Study before Taylor: An Examination of Certain Preconditions for Time and Motion Study that began in the Seventeenth Century." He has been invited to prepare a short monograph on *The History and Practice of Work Study* based on seminars that he recently gave to the School of Public Administration.

Anthony Edwards and Dr. Robert Schuler have had their article "New Texts of Marvell's Satires" accepted by *Studies in Bibliography*.

Dr. Rosemary Sullivan is to deliver a paper, "Surfacing and Deliverance: Two Versions of Survival?", at the annual meeting of the Association of Canadian University Teachers of English to be held in Edmonton at the end of May. The paper is a comparative study of novels by James Dickey and Margaret Atwood. Dr. Sullivan has recently published an article on Marie Claire Blois in *Canadian Literature*, No. 63, and in the fall her book on Theodore Roethke, *The Garden Master*,

will be published by the University of Washington Press.

GEOGRAPHY

The National Research Council of Canada has awarded a grant of \$4,500 to the highly successful Western Geographical Series, produced by the Department of Geography. The funds will be used to cover the cost of publishing Volume 11, *Victoria: Physical Environment and Planning*, which will be available by October, according to Dr. Harold Foster, Editor.

COMING EVENTS

FRIDAY, April 4

10:00 am "Craft Faire". S.U.B. Open until 8p.m.
12:30 pm Music at Noon. MacLaurin 144. UVic Chamber Singers. Bruce E. More, director with Gerald Stanick, viola.

3:30 pm Meeting, Faculty Association. Elliott 167.

7:15 pm Cinecenta Films. MacLaurin 144. "The Boy Friend" (1971) by Ken Russell and "Savage Messiah" (1972) by Ken Russell.

8:00 pm Phoenix Theatre. "Our Own Particular Jane", play based on the letters and novels of Jane Austen. Tickets: General — \$1.25; Students — \$1.00. Available at Phoenix Box Office.

8:00 pm Music. UVic Old Gym. Annual Taylor Music Scholarship Concerts. University Chorus and orchestra, soloists: George Corwin, conductor. Bach in B Minor Mass. Admission Charge. General — \$2.00 Students and Senior citizens \$1.00.

SATURDAY, April 5

10:00 am "Craft Faire". S.U.B. Open until 6:30 p.m.

2:15 pm Vancouver Island Soccer League. Athletic Park. Jackson Cup Finals.

7:00 pm Cinecenta Films. MacLaurin 144. "The Three Musketeers" (1974) by Richard Lester.

8:00 pm Music. UVic Old Gym. Annual Taylor Music Scholarship Concert. University Chorus and orchestra, soloists: George Corwin, conductor. Bach in B Minor Mass. Admission Charge. General — \$2.00 Students and Senior citizens \$1.00.

8:00 pm Phoenix Theatre. "Our Own Particular Jane", play based on the letters and novels of Jane Austen. Tickets: General — \$1.25; Students — \$1.00. Available at Phoenix Box Office.

9:15 pm Cinecenta Films. MacLaurin 144. "The Three Musketeers" (1974) by Richard Lester.

SUNDAY, April 6

2:15 pm Vancouver Island Soccer League. Athletic Park. Jackson Cup Finals.

7:30 pm Cinecenta Films. MacLaurin 144. "The Three Musketeers" (1974) by Richard Lester.

MONDAY, April 7

8:15 pm Lecture, University Extension Association of Victoria. Elliott 168. "Exploring the Solar System". C.D. Scarfe, Ph.D., Association Professor in Physics, University of Victoria.

TUESDAY, April 8

8:15 pm Faculty and Staff Badminton. Gymnasium.

THURSDAY, April 10

12:30 pm Meeting, UVic Women's Action Group. Craigdarroch 203.

FRIDAY, April 11

3:30 pm Meeting, Faculty of Arts and Science. Elliott 167.

8:00 pm Music. MacLaurin 144. Faculty Recital: Lanny Pollet, flute, with assisting artists. Admission charge.

SATURDAY, April 12

2:15 pm Soccer. Division Play-Offs. Top four teams in each Division.

SUNDAY, April 13

2:15 pm Soccer. Division Play-Offs. Top four teams in each Division.



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